

WHAT IS CLAIMED IS:

1. A method of manufacturing an electro-optical device including a display region in which a plurality of basic pixels are arranged, each basic pixel including a plurality of color pixels, the method comprising:

forming the lines on a first substrate to drive a plurality of electro-optical elements respectively constituting the color pixels, correspondingly to the arrangement of the basic pixels;

forming the chip on a second substrate, as a chip to be transferred to each basic pixel, a drive circuit to drive the plurality of electro-optical elements which constitutes the plurality of color pixels of each basic pixel to obtain a plurality of basic-pixel driving-chips; and

transferring the respective basic-pixel driving-chips from the second substrate onto the first substrate, and connecting the drive circuits to regions of the lines corresponding to the basic pixels.

2. The method of manufacturing an electro-optical device according to Claim 1, each of the basic-pixel driving-chips including a plurality of control devices to individually control operating conditions of the plurality of electro-optical elements.

3. The method of manufacturing an electro-optical device according to Claim 2, each of the control devices including a first transistor to control current flowing in the electro-optical element and a second transistor to operate the first transistor in accordance with input signals.

4. The method of manufacturing an electro-optical device according to Claim 3, a gate electrode of the second transistor included in each of the control devices being connected to a common line passing through each of the control devices.

5. The method of manufacturing an electro-optical device according to Claim 4, each of the basic-pixel driving-chips including a plurality of first connection terminals serving as electrical connections to the basic-pixel driving-chip;

the first substrate including a plurality of second connection terminals provided in regions to which the basic-pixel driving-chips are transferred in one-to-one correspondence with the first connection terminals and serving as electrical connections to the lines,

the transferring including accomplishing electrical connection between the basic-pixel driving-chips and the first substrate by carrying out the transferring to bring the plurality of first and second connection terminals into contact with each other, and

each of the first connection terminals and each of the second connection terminals being allocated to the common line included in the basic-pixel driving-chip and to the lines on the first substrate to be electrically connected to the common line, respectively.

6. The method of manufacturing an electro-optical device according to Claim 5, the transferring including forming an adhesive layer on at least one side of the first connection terminals formed in the basic-pixel driving-chips or the second connection terminals formed on the first substrate.

7. The method of manufacturing an electro-optical device according to Claim 5, the plurality of first connection terminals being spaced from one another by a predetermined distance, and also being arranged in two lines along one direction of the basic-pixel driving-chip.

8. The method of manufacturing an electro-optical device according to Claim 1, the forming the chip on a second substrate including forming a peeling layer interposed between the second substrate and the basic-pixel driving-chips, the peeling layer having a feature that application of energy causes a phase transformation to weaken the bonding strength to the basic-pixel driving-chips.

9. A transferred chip to be used to manufacture an electro-optical device in which a plurality of basic-pixel circuits are arranged on a wiring substrate, the transferred chip comprising:

drive circuits to drive the basic-pixel circuits; and

a plurality of connection terminals to connect the wiring substrate and the drive circuits to each other, the plurality of connection terminals being formed in patterns of two lines all over a transfer surface of the transferred chip.

10. The transferred chip according to Claim 9, the basic-pixel circuits including a plurality of electro-optical elements constituting a plurality of color pixels, respectively, and the driving circuits drive and controlling each of the plurality of electro-optical elements.

11. A transfer origin substrate, comprising:
a substrate; and
a plurality of the transferred chips according to Claim 9 formed on the substrate.

12. The transfer origin substrate according to Claim 11, further comprising a peeling layer interposed between the substrate and the transferred chips, the peeling layer

having a feature that application of energy thereto causes a phase transformation to weaken a bonding strength to the transferred chips.

13. An electro-optical device manufactured by the method according to Claim 1.
14. An electronic apparatus, comprising:
the electro-optical device according to Claim 13 usable as a display unit.